

# EXHIBIT G

## APPENDIX A

# **Albert V. Karvelis, Ph.D., P.E.**

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**Senior Vice President**

## **SUMMARY OF QUALIFICATIONS**

Over 30 years of industrial experience in performing and managing product design, testing and improvement, and R & D. Experience includes aerospace, power generation, automotive, HVAC, medical devices industries with respect to: product performance, life-cycle analysis and testing, design, manufacture, safety and failure analysis.

## **PROFESSIONAL EXPERIENCE**

2001-Present PACKER ENGINEERING - Naperville, Illinois  
Senior Vice President

Responsible for corporate business development and consulting in industrial machinery practice areas. Conducted major design review for gear motors in industrial and consumer product applications. Practice also includes machine design, safety, failure analysis and intellectual property analysis. Production equipment performance testing/evaluation includes material handling, automated welding, assembly line and fabrication machinery.

Led major failure investigations of complex failures of 5000 HP compressors in Canada and South America which identified new design improvements. Successfully developed accelerated life testing procedures and performed tests for industrial valves resulting in design life and safety improvements. Provided training to mid-size machinery builders in conducting and integrating Product Safety Risk Assessment into the design process.

Assisted in establishing a Forensic Engineering course at Northwestern University (CE 432). Lectured on topic "Ethics and Safety in Design."

Active service on standards committee resulting in the publication of ANSI/ASME B15.1-2000 Safety Standard for Mechanical Power Transmission Apparatus.

Currently participating on AMT Working group drafting the General Machine Tool Safeguarding Standard as part of the B11 series.

1989-2001      Vice President

Responsible for Mechanical, Electrical, Human Factors, Biomedical and Machinery groups. Consulting services in design analysis, independent review, failure analysis and accident reconstruction in transportation, industrial equipment, consumer products and process/manufacturing. Performed safety analyses of equipment and processes.

Principal Investigator of NIH-SBIR, design of an electro-mechanical device for treating the symptoms of Meniere's disease. Performed patent infringement and trade secret analyses and served as arbitrator for machinery performance dispute resolution. Directed activities in vibration analyses for industrial products including large compressor stations and engine/generators.

Directed custom field and laboratory life/performance testing of consumer and industrial products.

Completed 15 years of conducting the "Safety & Ethics in Design" Seminar at Northern Illinois University. Elected to Association of Manufacturing Technology safety standards drafting committee, resulting in publication of: ANSI/AMT B11.10 - 2000 – Safety Requirements for Metal Saws.

1982-1989      Borg Warner Corporation, Technical Center - Des Plaines, Illinois  
                    Manager Engineering Mechanics

Responsible for Mechanical Design Technology, CVT, Heat Transfer & Fluid Mechanics and Vibration/Acoustics Groups. Directed activities in power-train design/analysis technology, manufacturing technology, hydraulic power systems, robot simulation and failure analysis. Group staff generated 51 new patent filings in four years in transmission components.

Provided technical support on HVAC technology for York International.

Directed stationary dynamometer and test track testing technology for vehicles and power-train components. Responsible for development of the first 3-D modeling and flow test verification using Laser Doppler Velocimetry for mapping the internal flows of automotive torque converters. Member of the Real Time Chiller Diagnostics Team which developed the prototype software and hardware to alert a central station when maintenance and or repair is required for a central system building chiller integrated with the security system.

Led joint GM-Borg Warner Task Force to solve truck driveline dynamic problems. Task Force produced first system model for torsional and transient drive-train analysis incorporating chassis and suspension dynamics. Led joint Ford-Borg Warner task force to solve gear rattle problems for drive-trains using non-linear drive-train models. Provide support to Japanese auto makers to diagnose and solve shudder problems in prototype vehicles.

Supervisor - Dynamics Group

Responsible for developing the Vibration & Acoustic Laboratory. Provided technical support to the Automotive, Chemical, Industrial Pump, Refrigeration and Security Divisions. Conducted research in transmission and driveline dynamics and CVT technology.

Developed with NVH team, the transmission noise simulator for subjective evaluation of design modification changes. Directed the development of transient dynamics of automotive drive trains and industrial gear pump equipment. Directed the development of the transformation toughened zirconia® high pressure (6000psi) hydraulics sensor for John Deere applications.

1977-1982 Babcock & Wilcox Research Center, Mechanical Engineering Laboratory - Alliance, Ohio  
Acting Supervisor, Flow-Induced Vibration

Performed activities of flow-induced vibration modeling for helical steam exchangers. Directed flow performance testing of helical HX at Argonne National Laboratory for Clinch River Breeder Reactor as Project manager for DOE. Directed development of the finite-difference computer modeling and steam flow testing for the Electric Power Research Institute and the US Navy. Performed field failure analysis and design review of power-plant equipment and coal slurry flow measurement technology.

1977-1981 Senior Research Engineer

Performed engineering mechanics testing and analysis in dynamics. Led the Vibration Instrumentation Team which developed, qualified and installed sensors at the Oconee and TMI-II nuclear power reactors. As part of the qualification, personally directed vibration, fatigue, flow and wear testing for steam generator monitoring equipment for Nuclear Regulatory Commission approvals. Developed flow model for flow and wear prediction associated Fluidized Bed Boiler tubes.

As consultant to Babcock & Wilcox Valve Division, assisted in the design testing, manufacturing and failure analysis of pressure reducing valves used in 5000-10000psi service. Assisted in the design of a valve blow down test facility in Irvine facility. Consulted to Babcock & Wilcox, Canada, in mechanical engineering issues.

1975-1977 The Trane Company, Technical Center - LaCrosse, Wisconsin  
Research Engineer

Developed and implemented vibration and acoustic instrumentation and analysis technology for use in reciprocating and centrifugal compressors. Performed failure analysis in refrigeration equipment and heat exchangers. Developed models for pulsation control in vaneless diffusers and vibration of reciprocating compressor drivelines. Test responsibility for reciprocating compressors and centrifugal chiller compressors.

1974-1975 Penn State University, Department of Mechanical Engineering -  
University Park, Pennsylvania  
FRA – (Faculty Rank)

Supervised Graduate Students in valve testing and digital signal processing.

1971-1975 Department of the Navy, Office of Naval Research  
Reserve Unit 4-4 - State College, PA  
Executive Officer

1970-1974 NASA Fellow

Doctoral research and course work. Consultant to U.S. Navy Applied Research Laboratory in dynamics and to several valve manufacturers. Designed and built the Penn State Valve Flow and Noise Test Facility. Conducted performance evaluation testing of conventional and novel valve designs. Performed in-plant evaluations of high speed production machinery as consultant in machinery design.

1967-1970 U.S. Navy, Naval Air Systems Command Headquarters, Propulsion Division -  
Washington, D.C.

Initially served as Student Naval Aviator after commissioning as Ensign, USNR-R in 1968. In May 1969 ordered to serve at the Naval Air Systems Command Headquarters serving as Senior Project Officer: responsible for all research, development, test and evaluation for reciprocating engines and propeller systems. Directed activities in product improvement, failure analysis and maintenance technology. Coordinated activity with U.S. Air Force, US Army and foreign embassies. Monitored and approved qualification testing of seals, gears, hydraulics and pistons. Leader/team member engine and drive train failure analysis task force including P-2/3, C-2, and C-130 aircraft problems.

1963-1967 University of Michigan, Institute for Science and Technology -  
Ann Arbor, Michigan

Performed design and testing in support of geophone signal processing in 1963. Designed and built instrumentation and performed qualification testing for NASA sponsored Mach 8 wind tunnel. This tunnel was the only laminar boundary layer hypersonic wind tunnel in the free world. Conducted extensive flow testing of gas ejector pumps. Consulted in optimizing of rocket propulsion firing for Booze Allen. Developed a novel method of firing of stoichiometric to achieve optimum orbit insertion.

## ACADEMIC

Ph.D.	Pennsylvania State University (Engineering Acoustics) - 1975
M.S.E.	University of Michigan (Aeronautical Engineering) - 1967
B.S.E.	University of Michigan (Aeronautical Engineering) - 1966
1974-1975	Staff Faculty Member, Department of Mechanical Engineering, Pennsylvania State University
1970-1974	NASA Fellow, Department of Mechanical Engineering, Pennsylvania State University
1986-1990	Adjunct Professor of Mechanical Engineering, Northern Illinois University, teaching graduate courses in Advanced Vibration; Fatigue and Fracture Mechanics. Senior Mechanical Design Project: Safety and Ethics in Design
1990-2005	Northern Illinois University, Department of Mechanical Engineering, Lecturer in ME 482 Mechanical Design – “Safety & Ethics in Design”
2005	Lecturer on “Safety and Ethics in Design & Philosophical Underpinnings of Engineering Ethics” Northwestern University CIV ENG 395-0.

## REGISTRATIONS

Licensed Professional Engineer, State of Illinois (License No. 062-050540)  
 Licensed Professional Engineer, State of Michigan (License No. 6201051092)  
 Licensed Professional Engineer, State of Wisconsin (License No. 36728-006)  
 Licensed Professional Engineer, State of Connecticut (License No. 24271)  
 Licensed Professional Engineer, State of Florida (License No. 62164)  
 Licensed Professional Engineer, State of Texas (License No. 97096)

## PROFESSIONAL SOCIETY MEMBERSHIPS

- American Society of Mechanical Engineers (ASME)
  - ASME Codes & Standards B.15 Committee, “Safety Standards for Mechanical Power Transmission Apparatus”
  - Technical Paper/Book Reviewer for ASME Design Engineering Division
- ASME Design Engineering Division Power Transmission & Gearing Technical Committee since 1986
- Western Society of Engineers – Trustee
- American National Standards Institute/Association for Manufacturing Technology B11.10 Metal Saw Safety Standards Drafting Committee since 2000
- Human Factors & Ergonomics Society, Paper Reviewer
- Society of Automotive Engineering (SAE)
- The National Science Foundation / United States Civilian Research & Development Foundation - Proposal Reviewer
- The Institute of Electrical and Electronics Engineers, Inc. – Member
- Fluid Power Society – Member
- Instrument Society of America - Committee
- The Technical Association of the Pulp & Paper Industry – ( TAPPI) - Member
- National Bureau of Standards, U.S. Navy - Mechanical Failures Prevention Group Committee Member
- American Institute of Physics – Advisory Board Reviewer 1972-75

## PROFESSIONAL ACTIVITIES SUMMARY

2007	ASME International Design Engineering Technical Conferences, Session Organizer, Paper Reviewer, Las Vegas, Nevada
2007	HFES 51 <sup>st</sup> Annual Meeting, Papers Reviewer, Assigned Co-Chair Warning Session, Baltimore, Maryland
2005	ASME International Design Engineering Technical Conferences, Session Organizer, Paper Reviewer, Long Beach, California
2003	ASME Design Engineering Technical Conference, Paper Reviewer, Session Chair, Chicago, Illinois
2002-Present	Northern Illinois University, Department of Mechanical Engineering Industrial Advisory Board, Member
2002	ASME Design Engineering Technical Conference, Paper Reviewer, Session Chair, Montreal, Quebec
2000	ASME Design Engineering Technical Conference 2000 Session Organizer, Technical Session Chair, Baltimore, Maryland



- 1998 Human Factors Society Technical Programs Committee Annual Conference
- 1996 Chairman, ASME 7<sup>th</sup> International Power Transmission and Gearing Conference, San Diego
- 1992 American Society of Mechanical Engineers - 6th International Power Transmission and Gearing Conference, Session Chairman, "Transmissions"
- 1991 SAE International Congress & Exposition, Session Chairperson, "Side Impact Occupant Protection Technologies"
- U.S. Small Business Administration - Small Business Innovation Research Program, Invited Speaker, "Small Business R & D - The Not So Obvious Benefits"
- 1990-1991 Society of Automotive Engineers Personal Watercraft Safety Committee
- 1989 American Society of Mechanical Engineers 5<sup>th</sup> International Power Transmission and Gearing Conference, Session Organizer and Session Chair, San Diego CA
- Industrial Research Exposition/Conference, Session Chairman, "Recent Trends in Mechanical Design," September 1989, Chicago, IL
- 1989 Industrial Research Exposition/Conference, Organizer/Session Chair, "Recent Trends in Mechanical Design - Coordinating Design with Manufacturing," September 1989, Chicago, IL
- 1987 American Society of Mechanical Engineers Design Technology Conference, Session Organizer, "Micro-Computer Applications in Vibrations," Proceedings Editor
- 1986 Department of Mechanical Engineering, Purdue University; Pennsylvania State University, Invited Speaker, "Industrial Engineering Practice"
- 1985-1987 Industrial Liaison Board – Massachusetts Institute of Technology
- Mechanical Failures Prevention Group (sponsored by Office of Naval Research & National Bureau of Standards), Reliability and Maintainability Conference, Naval Air Test Center, Session Chairman, "Wear Monitoring"
- American Society of Mechanical Engineers Design Division, Technical Committee on Sound and Vibration, 1980-1984; Vice Chairman, 1982-1984

1985-Present ASME Power Transmission Gearing Technical Committee; Chairman 1992 - 1996, Member 1985 to present

1984-1987 NBS/U.S. Navy, Mechanical Failures Prevention Group, Committee Member

1984 American Society of Mechanical Engineers 4<sup>th</sup> International Conference on Power Transmission, Session Chairman

Mechanical Failures Prevention Group Conference, Session Chairman, "Artificial Intelligence, Diagnostics," Gaithersburg, MD

Acoustical Society of America, S-4 Standards Committee Member, 1982 - 1984

1982-1988 Borg Warner Corporate Sensor Technology Committee and Mechanical Engineering Patent Committee

1979-86 ASME Design Engineering Technical Committee Sound & Vibration, member and Vice-Chair 1984 - 1986

1981 American Society of Mechanical Engineers Design Engineering Conference, Session Organizer and Chairman of Session 3.1, "Integrating Dynamic Testing into the Design and Development Cycle" Boston MA

1980 American Society of Mechanical Engineers Design Engineering Conference, Organizer and Chairman, "Signal Processing" Session

OAI Digital Time Series Analysis Short Course, Lecturer, "Quality Assurance and Computer Software," Santa Clara, CA

1972-1976 Instrument Society of America, Standards and Practices Committee: SP-79, Control Valve Noise Measurement and Prediction

1972-1975 American Institute of Physics Advisory Panel on Publishing

1970-1975 Executive Officer, Office of Naval Research Reserve Unit 4-4, State College, PA

Summer Active Duty 1972-1973: Chicago ONR Office Technical Audit of ONR sponsored research at Mid-West Universities

Summer 1974 - Pentagon, Office of the Chief of Naval Operations, responsible for drafting OPNAVINST 3605 - Environmental Policy Manual for Military Airports

## PUBLICATIONS

1. "Internal Wall Pressure Field Studies Downstream from Orificial-Type Valves," Instrument Society of America, Paper 74-827, 1974 with G. Reethof.
2. "Valve Noise Research Using Internal Wall Pressure Fluctuations," INTERNOISE-74 Proceedings, 1974, with G. Reethof.
3. "A Cross-Correlation Technique for Investigating Internal Flow Noise," ASME Proceedings Noise & Fluids Engineering, November 1977, with G. Reethof.
4. "Practical Considerations in Noise Testing of Quiet Valves," INTERNOISE-80 Proceedings, December 1980, with D. Minoofar.
5. "Fluid Dynamic Forces in an Atmospheric Fluidized Bed Combustor," Proceedings, Fluid Mechanics of Combustion Systems, ASME, June 1981 with W. Lapple.
6. "Acoustic Monitoring of Nuclear Safety and Relief Valves," EPRI Final Report No. 3332, December 1983, with D. Raj, et al.
7. "A Systems Approach to Reducing Gear Rattle," SAE Technical Paper 870396, presented at SAE Congress, February 1987.
8. Editor, Advanced Topics in Vibration, ASME Publication DE-Vol. 8, 1988.
9. "3-D Coordinate Reconstruction of High Speed Mechanically Dynamic Experiments," co-authored with A. Liubinskas and C. Anderson, presented at Image Acquisition & 10 Image Processing of Optical Engineering Midwest Conference, September 27-28, 1990.
10. "Computer Aided 3-D Surface Reconstruction During High Speed Crush Events," SAE Special Publication SP-851, Technical Paper No. 910320, February 1991.
11. Pressure Delivery Device for Meniere's Disease, Report to Public Health Service, National Institute of Health, National Institute of Deafness and Other Communication Disorders, November 9, 1993, with Kathleen Campbell.
12. "Self-Locking Worm Gears: Fact or Fiction?" Power Transmission Design, March 1996.
13. "A Contextual Analysis of the Effectiveness of Backup Alarms," 14<sup>th</sup> International System Safety Conference Proceedings, August 12-17, 1996.
14. Editor, Proceedings of the 7<sup>th</sup> International Power Transmission and Gearing Conference, 1996.

15. D.G. Curry and A.V. Karvelis, "Ergonomics" in H. Geng (ed.), Manufacturing Engineering Handbook, Chapter 58, pp. 58.1-58.40, New York: McGraw-Hill June 2004.

## APPENDIX B

**ALBERT V. KARVELIS, Ph.D, P.E.**  
**TESTIMONY LIST**

**U-Line Corporation vs Ranco North America, L.P.**

Circuit Court, Milwaukee County, Wisconsin  
No. 00-CV-3941  
Trial Testimony, Milwaukee, WI  
August 17 and 18, 2004

**Vera Prohoroff, John Prohoroff, Jr., & Michael Prohoroff vs Liebherr Crane, et al**

Central District of California, Western Division  
No. CV-02-7843 SJO  
Deposition Testimony, Long Beach, CA  
September 30, 2004

**Nervil Anofils vs General Motors Corporation**

Circuit Court of the Thirteenth Judicial Circuit in and for Hillsborough County, Florida  
No. 97-1246 Div. F; 97-0966 Div. C; 98-4177 Div. B; 97-294-W  
Deposition Testimony, Orlando, FL  
October 29, 2004

**Advanced Technology Materials, Inc. vs Praxair, Inc.**

US District Court for the Southern District of New York  
No. 03 CV 5161  
Deposition Testimony, New York City, NY  
January 6, 2005, May 25, 2005

**Freni Brembo and Brembo North America, Inc. vs Alcon Components, Ltd.  
and Alcon Components (USA) Inc.**

US District Court for the Northern District of Illinois, Eastern Division  
Deposition Testimony, Chicago, IL  
January 14, 2005

**Joseph Todd Culpepper and Dawn Culpepper vs Controlled Automation**

US District Court for the Middle District of Georgia, Columbus Division  
No. 4:03 CV-47-2  
Deposition Testimony, Chicago, IL  
February 14, 2005

**HWH Corporation vs Saint Gobain Performance Plastics Corporation**

US District Court for the Northern District of Iowa, Cedar Rapids Division  
No. C02-156  
Deposition Testimony, Naperville, IL  
April 7, 2005

**David Mendez vs Davis Iron Works. Ltd., Kranco, Inc., et al**

US District Court, McLennan County, Texas  
No. 2001-3829-3  
Trial Testimony, Waco, TX  
April 20, 2005

*Albert V. Karvelis, Ph.D., P.E.*  
*Testimony List*

**Praxair, Inc. v. Advanced Technology Materials, Inc.**

US District Court for the District of Delaware  
No. 03-1158-SLR  
Deposition Testimony, New York, NY  
June 30, 2005

**Techtronic Industries Co. Ltd. and Richard Pando v. Chervon et. al.**

US District Court for the Northern District of Illinois, Eastern Division  
No. 05 C 4370  
Deposition Testimony, Chicago, IL  
August 5, 2005

**Dalrymple v. The Harris Waste Management Group, Inc. and IPS Balers, Inc.**

US District Court for the Eastern District of Arkansas, Pine Bluff Division  
No. 5:04 CV006 GH  
Deposition Testimony, Little Rock, AR  
August 11, 2005

**Vance (Anthony) v. Akers Packaging Service, Inc. et. al.**

Court of Common Pleas, Butler County, Ohio  
No. CV 2003 03 0803  
Deposition Testimony, Naperville, IL  
October 6, 2005

**Praxair, Inc. v. Advanced Technology Materials, Inc.**

US District Court for the District of Delaware  
No. 03-1158-SLR  
Trial Testimony, Wilmington, DE  
November 30, 2005

**Dalrymple v. The Harris Waste Management Group, Inc. and IPS Balers, Inc.**

US District Court for the Eastern District of Arkansas, Pine Bluff Division  
No. 5:04 CV006 GH  
Trial Testimony, Little Rock, AR  
December 7, 2005

**Hershey v. Black & Decker, Inc.**

State of Michigan, Circuit Court for the County of Wayne  
No. 04 416541 NP  
Deposition Testimony, Troy, MI  
January 5, 2006

**Aubin Industries, Inc. v. Jeff Smith, et. al.**

US District Court, Southern District of Ohio, Western Division  
No. C-1-04-681  
Deposition Testimony, Naperville, IL  
April 17, 2006

*Albert V. Karvelis, Ph.D., P.E.*  
*Testimony List*

**Salisbury (Jackson & Vicky) v. Kansas Jack, Inc., et. al.**

US District Court for the Western District of Pennsylvania  
No. 96-1946  
Trial Testimony, Washington, PA  
June 8, 2006

**DBHL, Inc. and Dearborn HL, S. DE R.L. DE C.V. v. Moen Incorporated, and Moen Sonora S.A. DE C.V.**

US District Court, 295<sup>th</sup> District, Harris County, Texas  
No. 2004-71621  
Deposition Testimony, Chicago, IL  
August 24, 2006

**Dachelet and Curwood v. Battenfeld Gloucester Engineering Company, et. al.**

State of Wisconsin, Circuit Court, Winnebago County  
No. 03-CV-0937  
Deposition Testimony, Milwaukee, WI  
October 3, 2006

**Gibson (Timothy) v. Precision Strip, Inc. [Highlight Industries]**

State of Ohio, Court of Common Pleas, Butler County  
No. CV05-04-1161  
Deposition Testimony, Naperville, IL  
May 21, 2007

**Amato (William) v. Wirgten America, Inc.**

US District Court, Eastern District of Virginia, Norfolk Division  
No. 2:06cv379  
Deposition Testimony, Chicago, IL  
June 15, 2007

**Taylor v. Kamco, Inc., et. al.**

Circuit Court of the Second Judicial Circuit in and for Leon County, Florida  
No. 06-CA-545  
Deposition Testimony, Naperville, IL  
July 12, 2007

**McKeon v. The Chamberlain Group, et. al.**

US District Court for the Eastern District of New York  
No. 06-CV-1272  
Deposition Testimony, Chicago, IL  
July 13, 2007

**Geo. M. Martin Company v. Alliance Machine Systems International, LLC**

US District Court, Northern District of California  
No. C 07 00692 WHA  
Deposition Testimony, San Francisco, CA  
March 20, 2008



*Albert V. Karvelis, Ph.D., P.E.*  
*Testimony List*

**Langeman Manufacturing, Ltd. v. Rhino Linings, etc. al.**  
US District Court, Western District of Wisconsin  
No. 07-C-0411-C  
Deposition Testimony, Chicago, IL  
May 27, 2008

June 19, 2008